

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

**IN RE: REMBRANDT TECHNOLOGIES,
LP PATENT LITIGATION**

MDL Docket No. 07-md-1848 (GMS)

**DEFENDANTS' ANSWERING CLAIM CONSTRUCTION BRIEF
REGARDING U.S. PATENT NO. 5,243,627**

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I. INTRODUCTION

Rembrandt's Opening Claim Construction Brief (D.I. 238) attempts to exploit the complexity of the technology in the '627 Patent to try to obscure the true – and limited – scope of the patent. Specifically, Rembrandt pushes evasive constructions that side-step the key claim construction issues presented by this case.

Yet, even so, Rembrandt admits key facts about the '627 Patent that clarify the parties' disputes. Indeed, Rembrandt narrows the areas of debate in a way that ultimately undermines its own constructions and helps to confirm that it is Defendants' constructions that stay true to the claim language and most naturally align with the patent's description of the invention.

The parties agree that the '627 Patent relates to the transmission of data in a form known as trellis encoded channel symbols ("symbols") that are each made up of multiple signal points. The parties also agree that the '627 Patent purports to improve upon an error correction technique for the transmission of symbols already described in the prior art '625 Patent. Rembrandt states that the '625 Patent teaches the use of a switch to interleave symbols during transmission so that symbols generated by different trellis encoders are spread out in the communications stream. According to Rembrandt, the purpose of interspersing symbols in the communications stream is to prevent a long burst of noise that disrupts the transmission from corrupting a large number of consecutive symbols from a particular encoder. The patent claims this is desirable because, if noise corrupts a trellis encoded symbol, the original information can still be recovered using other symbols from the same encoder. In other words, interspersing symbols from a single encoder increases the likelihood that enough consecutive symbols will withstand a noise burst to recover the information from the corrupted symbols.

According to Rembrandt itself, the supposed improvement of the ‘627 Patent is a mere “augmentation” of the prior art ‘625 Patent.¹ In particular, Rembrandt states that the ‘627 Patent simply adds the concept of interleaving the multiple *signal points* that make up each symbol to the admittedly prior art concept of interspersing the *symbols* among themselves, as described in the ‘625 Patent. Thus, the thought behind the ‘627 Patent – as Rembrandt sees things – is that if it is helpful to scramble the symbols so they are not adjacent in a communications stream (as taught by the ‘625 Patent), the same principle can be applied to the signal points that make up the symbols, such that the signal points within each symbol are interspersed in addition to interspersing the symbols themselves.

Against this background, it is easier to understand why Rembrandt’s claim construction positions are wrong. For example, Rembrandt strains to deny the elementary requirement of the ‘627 Patent that the signal points that make up each symbol are *adjacent* before the interleaving described in the patent renders them “non-adjacent.” *See* D.I. 238 [Rembrandt Opening Brief] at 15 (“the claim language does not require that the signal points be adjacent”). Yet it would make no sense for one to conceive an invention to interleave signal points to make them non-adjacent – as Rembrandt admits is the principal purpose of the patent – if they were not adjacent in the first place. Even more basically, signal points that are the constituent parts of a symbol are by their very nature initially adjacent to each other because they are generated together to make up the symbol. The ‘627 Patent confirms this common sense understanding: “Note that the signal points of each channel symbol operated on by a particular trellis encoder stage are adjacent in the output signal point stream.” *See* ‘627 Patent at 6:55-58; *see also id.* at 6:67-7:1 (“the individual

¹ In its brief, Rembrandt appears to attempt to attribute to the inventors the idea of using more than one signal point to make larger symbols. D.I. 238 [Rembrandt Opening Brief] at 5. That passage appears to be overzealous advocacy and not a serious claim of inventorship to this old idea.

signal points of each channel symbol are adjacent to one another as they pass through the channel.”).² Simply put, a centerpiece of Rembrandt’s claim construction brief is its insistence that the signal points that make up each symbol need *not* be adjacent before the claimed interleaving renders them non-adjacent. This position defies both good sense and the express teachings of the ‘627 Patent, and should be rejected.

Rembrandt’s attempt to obscure the true scope of the claim term “trellis encoded channel symbol” fares no better. Essentially, Rembrandt’s approach is to define the claimed symbols so amorphously that they can be read to cover any “group” of bits that can be characterized as being treated as some kind of a “unit” by some kind of “encoding system.” In doing so, Rembrandt’s definition fails to account for what it is that makes a group of bits correspond to the “trellis encoded channel symbol” of the patent as compared to a signal point, a collection of signal points, or a collection of symbols. By contrast, Defendants focus their construction on the defining characteristic of such trellis encoded channel symbols. Specifically, Defendants’ construction provides that the symbols are comprised of signal points all selected using the same group of bits that enter the trellis encoder in parallel and are expanded once as they pass through that encoder. The ‘627 Patent specification confirms that, during a symbol interval, a group of parallel bits is provided to the trellis encoder and is used to generate a trellis encoded channel symbol. ‘627 Patent at 2:61-3:3, 5:1-4. This is further explained in technical detail by Defendants’ expert Dr. Richard Gitlin in his declaration.³

² Where it improves readability, references to the symbols and numbers that correspond the text of the patent with the figures are omitted in the quotes in this brief.

³ The Gitlin declaration is submitted and referenced for educational purposes and as helpful in the Court’s discretion.

As discussed below, Rembrandt's other claim construction positions also reflect its general effort to avoid claim constructions with any traction on the issues raised by this case and thereby stretch the asserted claims to read on the accused instrumentalities. In an effort to buttress its vague constructions, Rembrandt attempts to invoke a novel application of "*stare decisis*" that would presumptively adopt the Eastern District of Texas magistrate judge's recommended constructions (which this Court vacated *sua sponte*). For a host of reasons, both procedural and substantive, Rembrandt's attempt to treat the magistrate judge's vacated opinion as though it were some kind of short cut path for this Court should be rejected.

II. REMBRANDT'S LATEST ATTEMPT TO RESURRECT THE OPINION OF THE MAGISTRATE JUDGE IN TEXAS SHOULD BE REJECTED

As it has throughout this case, Rembrandt leads off its analysis by touting the claim construction opinion of the magistrate judge in one of the Eastern District of Texas proceedings, involving only one defendant, within this MDL. Indeed, Rembrandt goes so far as to suggest that, although the Texas magistrate's opinion is not technically binding on this Court, the "*stare decisis*" effect of that opinion may nevertheless apply to this Court. Rembrandt anchors its *stare decisis* argument to the Supreme Court's mention in *Markman* that uniformity in claim constructions counsels in favor of having judges, not juries, decide claim construction. D.I. 238 [Rembrandt Opening Brief] at 7. Rembrandt further argues that this Court should enter the magistrate's putative constructions from the Texas proceedings "in the interest of maintaining consistency between copending actions" and for efficiency. *Id.*

The heavy emphasis Rembrandt continues to place on the Texas magistrate's opinion disregards this Court's prior orders. When Rembrandt first sought to rely upon the Texas magistrate's opinion at the beginning of this MDL proceeding, this Court *vacated* that opinion on

its own motion under its authority to vacate pretrial orders as set forth in § 20.132 of the Manual for Complex Litigation (Fourth). D.I. 9 [July 3, 2007 Order].

Undeterred, last December, Rembrandt sought to circumvent this Court's Order vacating the Texas magistrate's opinion by proposing an "objection" period to the Texas opinion as the core of the schedule proposed for this MDL litigation at the Case Management Conference. D.I. 26 [Joint Status Report] at 19. This Court flatly rejected Rembrandt's attempted revival of the Texas magistrate's opinion and reminded Rembrandt directly that it had vacated that opinion: "One thing I would like to point out that doesn't seem to be reflected in your schedule that you proposed, Mr. Seitz, is that I had vacated that ruling." *See* December 12, 2007 Status Conference Tr. at 12:2-4. Similarly, when Rembrandt continued to promote the Texas magistrate's opinion during the Case Management Conference, this Court ordered that, in view of the fact that the Texas magistrate's opinion was vacated, this Court would perform claim construction "anew" and that the claim construction process would be performed "*de novo*." *Id.* at 76:10-11.

Rembrandt's insistence that this Court should "defer" to the Texas magistrate's opinion for purposes of "uniformity" and "consistency" in the name of *stare decisis*⁴ not only defies this Court's orders, but also defies logic. The Texas magistrate's opinion has been vacated and does not govern any case at all. This Court has been appointed to preside over the MDL proceedings,

⁴ Ironically, Rembrandt originally argued that there was no need for an MDL, believing that the potential for conflict if there were claim construction rulings in the 15 or more cases that make up this proceeding was not a major issue. It was the MDL Panel, not Rembrandt, that sought "to prevent inconsistent pretrial rulings," explaining that by "centralizing this litigation before Judge Gregory M. Sleet, who presides over all Delaware actions, we are assigning this litigation to a seasoned jurist in a readily accessible district with the capacity to handle this litigation." D.I. 1 [June 18, 2007 Transfer Order] at 2. Thus, as the MDL Panel acknowledged, there is no risk of inconsistent rulings if this Court enters the claim construction rulings that it believes to be correct.

including claim construction. It is this Court's claim construction ruling which will govern, and there is no extant claim construction ruling with which it might be inconsistent.

As it has already ordered, this Court should review the claim construction issues *de novo* without any deference to the Texas magistrate's opinion.

III. DEFENDANTS' CLAIM CONSTRUCTION POSITIONS SHOULD BE ADOPTED

In the following sections, Defendants address Rembrandt's claim construction arguments and explain why Defendants' positions should be adopted.

A. "Signal Point"

Rembrandt argues that the claimed "signal point" is merely "a value that is transmitted by a modulator in one signaling interval."

The central problem with Rembrandt's construction of this term is that it treats the claimed "signal point" of the '627 Patent as merely some kind of generic value. This blindly ignores both the plain meaning of the term and the technological context of the patent in which the term is used. Because "signal points" are a central element of the claimed inventions, it is important to be clear about what a "signal point" is within the patented technology. To be a "signal point" the associated values must correspond to a point on a constellation reflecting two dimensions (the I and Q axes of the constellation), such as the constellation shown in Figure 2 of the patent.⁵ Otherwise, they would not be "signal points" within the meaning of the patent – even Rembrandt cannot seriously deny that. Rather than disconnecting a "signal point" from the relevant technology as Rembrandt proposes, the claimed signal point should be defined as Defendants propose: "A point on a 2 dimensional constellation having a pair of coordinates representing two components of a corresponding signal."

⁵ The I and Q axes of the constellation are akin to the X and Y axes on a graph.

Rembrandt raises three issues with this construction. First, Rembrandt argues that limiting the signal point to a “2 dimensional” constellation improperly limits the claimed signal points to a “preferred embodiment.” Rembrandt ignores, however, the clear teaching in the very first sentence of the “Summary Of The Invention” that states that the patent is an improvement upon and “further enhance[ment]” over the prior art systems using 2-dimensional constellations:

In accordance with the present invention, it has been realized that the Viterbi decoder performance in a data communication system using *2N-dimensional channel symbols can be further enhanced* by an interleaving technique which uses ...[invention described].

‘627 Patent at 2:5-10 (emphasis supplied). In this key phrase in the patent, “2N-dimensional channel symbol,” the “2” refers to the dimensions of the *signal point* constellation and the “N” refers to the number of signal points in the symbol. (3:56-58; D132; D145; D157)

Because this statement is in the Summary Of The Invention section, and because the patent also refers to “the general, 2N-dimensional case” (8:61), the argument that Defendants are improperly relying upon the preferred embodiment is meritless. The Summary of the Invention is “commensurate with the invention as claimed.” *Wireless Agents LLC v. Sony Ericsson Mobile Communs. Ab*, 189 Fed. Appx. 965 (Fed. Cir. 2006) (public has the right “to take the patentee at [his] word.”). Moreover, as explained in Defendants’ Opening Brief, the ‘627 Patent makes clear throughout that the context of the claimed invention is signal points on a “2 dimensional” constellation.

Second, Rembrandt argues that the specification makes clear that the claimed “signal point” can be used in signaling schemes that are other than 2 dimensional. Rembrandt’s argument, however, depends upon a confusing sleight of hand. The patent *does* state that the symbols in the patent can be made up of two or more signal points -- which would make the overall symbol greater than 2 dimensions, and in fact, a multiple of 2 dimensions (*e.g.*, 4, 6, 8, 10

. . . dimensions) depending on how many signal points constitute the symbol. *See, e.g.*, ‘627 patent, at 4:54-56; 8:18-26; 9:14-15. But nothing in the ‘627 Patent suggests that each signal point itself is anything but a point on a 2 dimensional constellation. Merely adding dimensions to the overall symbol by adding multiple signal points, does not change the technological fact that each of the signal points in the patent is 2 dimensional. Everything relevant in the patent confirms that it involves 2 dimensional “signal points” but that there is flexibility in how many signal points can be included in a symbol.

Third, Rembrandt argues that the doctrine of claim differentiation “compels” a broader construction of “signal point” because dependent claims require 2-dimensional signal points. D.I. 238 [Rembrandt Opening Brief] at 10-11 (identifying claims 3-5, 8, 13-15 and 18).

The facts of this case simply do not support, let alone compel,⁶ the result Rembrandt urges. Claim differentiation typically arises when a proposed narrow construction of a term in an independent claim would render a dependent claim identical in meaning and thus render the dependent claim mere surplusage. *Comark Comms. v. Harris Corp.*, 156 F.3d 1182, 1887 (Fed. Cir. 1998). This presumption, if it arises at all, is meant to avoid the nullity of a dependent claim that has an *identical* scope as the independent claim from which it depends. It is normally invoked when the limitation in dispute is the only meaningful difference between an independent and a dependent claim and the debate is whether the limitation in the dependent claim is also a

⁶ In any event, the law is clear that claim differentiation is not a rigid rule. To the contrary, as the Federal Circuit recently reiterated, “the presumption created by the doctrine of claim differentiation is ‘not a hard and fast rule and will be overcome by a contrary construction dictated by the written description or prosecution history.’” *See, e.g., Regents of University of Cal. v. Dakocytomation Cal., Inc.*, 517 F.3d 1364, 1375 (Fed. Cir. 2008) (citations omitted). Rembrandt’s suggestion that claim differentiation “compels” its proposed construction thus places far greater weight on the doctrine than the law permits.

requirement of the independent claim. *Acumed LLC v. Stryker Corp.*, 483 F.3d 800 (Fed. Cir. 2007). This is not such a case.

Claim differentiation cannot apply here because each of the dependent claims to which Rembrandt cites includes requirements that do not appear in the independent claims and have nothing to do with the dimensionality of the signal points. These additional limitations differentiate the scope of these claims from their respective independent claims under any construction. For example, each of dependent claims 3, 4, 8, 13, 14 and 18 requires that every Nth signal point in the interleaved signal point stream is the Nth signal point of a respective one of said channel symbols. Thus, even acknowledging Rembrandt's argument that these claims also require 2-dimensional signal points, these dependent claims are differentiated from their respective independent claims based on the requirement that every Nth signal point in the interleaved signal point stream is the Nth signal point of a respective one of said channel symbols. That additional requirement provides whatever differentiation is required between the independent and dependent claims to ensure that the dependent claim is not mere surplusage. When this differentiation is coupled with the specification's consistent – and only – disclosure of signal points as points on a 2-dimensional constellation (including in the first sentence of the Summary of the Invention), Rembrandt's arguments cannot overcome the proper construction that the claimed signal point is a point on a 2 dimensional constellation.⁷

⁷ Rembrandt's urging of claim differentiation based on independent claims 5 and 15 is similarly flawed because it ignores that Claims 5 and 15 are independent claims with many different limitations than the other independent claims of the '627 Patent. *See Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380-81 (Fed. Cir. 2006) ("It is not unusual that separate claims may define the invention using different terminology, especially where (as here) independent claims are involved.") For example, the "2N-dimensional constellation" in these claims provides context to the "subsets" limitation not found in any other claims.

B. “Trellis Encoded Channel Symbol...Comprised Of A Plurality Of Signal Points”

Rembrandt’s definition of the claimed “symbol” is, in actuality, another attempt at an evasive maneuver. Rembrandt argues that a symbol in the patent is a set of signal points that vaguely corresponds “to a group of bits that is treated as a unit by an encoding system.” Rembrandt’s generic language fails to give any real contour to the definition of the key patent term “symbol.” Indeed, it begs the critical question: how would a person of ordinary skill in the art be able to distinguish a unit of bits corresponding to a symbol from a signal point, a conglomeration of two symbols, or even just a random group of bits? This question is important because Rembrandt itself argues that interleaving symbols was known in the prior art and that the added step of interleaving signal points is the invention of the ‘627 Patent. There must be a meaningful characteristic to identify the unit of bits that define the symbol so as to, at a minimum, differentiate it from signal points.⁸ Rembrandt does not even attempt to explain the difference between symbols and signal points, instead confusing the issue by identifying as a

⁸ The parties’ allegations relating to infringement also reveal why this question is so important. The ATSC standard employs 1-dimensional symbols that do not contain multiple signal points. Thus, there is no signal point interleaving performed at all in the ATSC standard, which is what the ‘627 Patent is supposed to be about. To circumvent this, Rembrandt attempts to recharacterize each ATSC symbol as, not a symbol, but instead a “signal point,” and, based on that, intends to recharacterize four otherwise unrelated symbols as somehow a single “symbol” made up of four supposed signal points. See Exhibit A to Rembrandt’s March 24, 2008 Response to Interrogatories (Nos. 1-3, 5) at p.3 (“Each trellis encoded channel symbol encoded by one of the twelve trellis encoders in an ATSC compliant transmitter comprises four Vestigial Sideband (VSB) values (signal points), that are provided to the VSB modulator.”). [D108.] This allegation thus gives rise to the \$64,000 question of what it is that makes a group of signal points sufficiently related that they constitute a true symbol. As explained in Defendants’ Opening Brief, the Court is entitled to learn about Rembrandt’s infringement allegations to understand that context of and reason for the dispute. See *Serio-US Industries, Inc. v. Plastic Recovery Technologies Corp.* 459 F.3d 1311, 1319 (Fed. Cir. 2006) (“[A] trial court may consult the accused device for context that informs the claim construction process.”)

“symbol” any signal points that happen to be “treated as a unit” at any time, in any way, by any encoding system, whether or not it even trellis encodes.

In contrast, the specification of the ‘627 Patent identifies the defining characteristic of the claimed symbol. First, the ‘627 Patent references prior art, such as the Wei reference, that describes symbols and assumes the reader is familiar with such symbols from the prior art. The prior art provides that symbols are selected using a group of bits that enter the trellis coder together in parallel and are expanded (coded) together. This background prior art is further described in the Declaration of Dr. Richard Gitlin, which was submitted with Defendants’ Opening Brief. *See generally* Gitlin Decl., including ¶¶ 20-31.

Second, in describing how trellis coding works, the ‘627 Patent specifies that the bits that are used to select the symbol (including, in the preferred embodiment, the two signal points of which it is comprised) enter the trellis encoder as a parallel group of bits that is expanded once. As described more fully in Defendants’ Opening Brief, the ‘627 Patent notes that during each “symbol interval,” certain of the bits processed into a symbol are provided in parallel to the trellis encoder for expansion. *See* ‘627 Patent at 2:61-3:3, 3:19-22, 3:52-68; *see also* Gitlin Decl. ¶ 23 (“[A]lthough the ‘627 Patent does not disclose the details of the 4-D TCM system used in its examples, it does explain that each expansion of the trellis encoder results in the transmission of two signal points.”); D144-45.

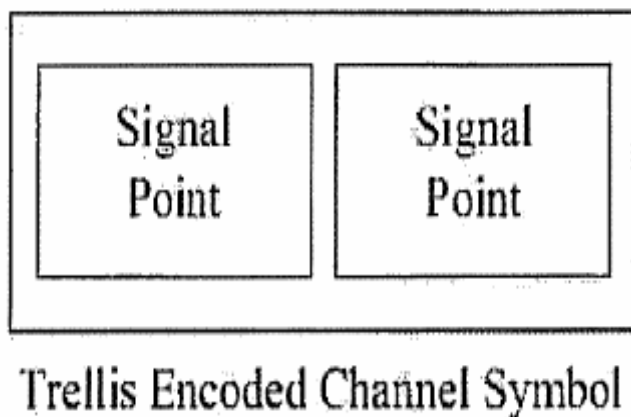
In response to Defendants’ construction and supporting citations of the central claim term “symbol,” Rembrandt’s brief argues only that “[c]laim construction starts and ends with the wording of the claims.” That is it. No analysis at all. Rembrandt’s studied failure to address Defendants’ construction substantively speaks volumes, as does its suggestion that one cannot look behind the highly technical and dense words of the claim.

Thus, a “trellis encoded channel symbol ... comprised of a plurality of signal points” should be defined as “two or more signal points all selected using the same group of parallel input bits as expanded once by a trellis encoder.”

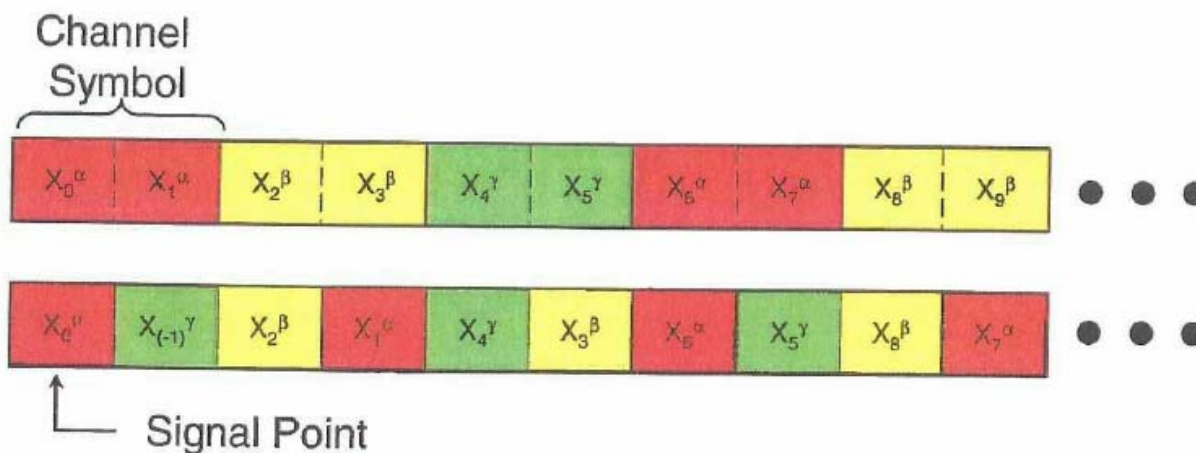
C. “Stream[] Of Trellis Encoded Channel Symbols” And “Means For Generating A Plurality Of Streams Of Trellis Encoded Channel Symbols”

The central issue regarding the “streams of trellis encoded channel symbols” is whether the signal points that make up each symbol must initially be adjacent. As explained above, Rembrandt characterizes the novelty of the ‘627 Patent as interleaving the two or more adjacent *signal points* that make up each symbol so they become non-adjacent. Indeed, interleaving the signal points of each symbol to make them non-adjacent is a requirement of each and every claim of the ‘627 Patent. *See, e.g.*, Claim 1 (“said interleaving being carried out in such a way that the signal points of each channel symbol are non-adjacent in said stream of trellis encoded signal points”). Logically, then, for the patent to make any sense, the signal points of each symbol would have to start out adjacent so that interleaving can render them non-adjacent. Yet, Rembrandt steadfastly denies that the signal points that make up each symbol are adjacent before the interleaving causes them to become non-adjacent. D.I. 238 [Rembrandt Opening Brief] at 14 (“All Other Parties’ proposed construction adds the limitation that ‘each symbol’s signal points are adjacent.’ This requirement is found nowhere in the claims and drawing it out of the specification is improper and should therefore be rejected”). Rembrandt goes so far as to argue that “the claim language does not require that the signal points be adjacent, and certainly does not require that the signal points be adjacent *before* they are interleaved.” *Id.* at 15. Rembrandt is wrong. The whole point of the claimed invention is that otherwise adjacent signal points are made non-adjacent by interleaving.

It is undisputed that each symbol is comprised of its constituent signal points. That is what the claims say. To be the claimed symbol, the signal points are necessarily adjacent. Indeed, in explaining how the patent works, Rembrandt concedes that the signal points that make up each symbol are adjacent. Rembrandt's brief depicts the symbol of the claimed invention, showing the two signal points as the adjacent components that make up the symbol:



Rembrandt also includes a "before" and "after" depiction of how the '627 Patent works in which it shows the signal points that make up each symbol are adjacent in the stream before interleaving and then interspersed after interleaving:



In the top stream, pairs of blocks (e.g., the first two red colored blocks (under the legend "Channel Symbol")) represent the adjacent signal points that make up symbols *before* interleaving. In the lower stream, *after* the interleaving of the claimed invention, the same pairs

of formerly adjacent signal points are no longer adjacent. Instead, each pair of signal points (e.g., those in red) is separated by other signal points from different symbols (*i.e.*, the green and yellow colored blocks above).

In any event, the patent itself is unambiguous that the signal points that make up the individual symbols are adjacent before they are interleaved to make them non-adjacent. The ‘627 Patent describes the first part of the claimed process, as it occurs in the prior art ‘625 Patent (referred to as the “Betts et al. patent”), in which the symbols are interspersed by the switch, but no signal point interleaving occurs:

Note that the signal points of each channel symbol operated on by a particular trellis encoder stage are **adjacent** in the output signal point stream

Note, however, that the individual signal points of each channel symbol, are **adjacent** to one another as they pass through the channel

‘627 Patent at 6:55-60 and 6:68-7:1 (emphasis supplied).

The patent then explains the adverse effect of “highly correlated noise” on adjacent signal points and that the purpose of the signal point interleaver is to address that problem by interleaving the signal points before transmission:

since all the signal points of a channel symbol must be processed serially in the same Viterbi decoder stage, this means that the Viterbi decoder must process **adjacent** signal points that have highly correlated noise components.

It is to this end that signal point interleaver is included within the transmitter in accordance with the invention.

‘627 Patent at 7:2-9 (emphasis supplied).

Thus, the claimed “stream of trellis encoded channel symbols” that approaches the interleaver is made up of symbols each comprised of adjacent signal points. It is the interleaver that causes the signal points of the symbols to become non-adjacent.⁹

D. Interleaving And Deinterleaving

1. “Interleaving The Signal Points Of Said Generated Channel Symbols To Form Said Stream Of Trellis Encoded Signal Points” and “Means For Interleaving...”

Rembrandt’s Opening Brief confirms that the “interleaving the signal points” claim limitations raise only two disputes. The first of these disputes – Rembrandt’s attempt to deny that the signal points that make up the symbols are in fact adjacent before interleaving – has already been addressed above. For all the reasons set forth in the prior section, the ‘627 Patent claims should be construed such that the signal points of each symbol are adjacent before the interleaving step renders them non-adjacent.¹⁰ Because that central aspect of the claims should be reflected in the construction of the claimed “interleaving,” Defendants’ construction of “separating the adjacent signal points of each generated trellis encoded channel symbol using other signal points” should be adopted.

⁹ Rembrandt relies upon *Baldwin Graphic Systems, Inc. v. Siebert, Inc.*, 512 F.3d 1338 (Fed. Cir. 2008), to suggest that the stream of trellis encoded symbols need not be generated before the signal points that make up those symbols are interleaved because in *Baldwin* the cleaning fabric did not have to have air removed before it was wound. The facts of *Baldwin* are far different than those here. The ‘627 Patent claims require forming a “stream of . . . signal points” from “streams of . . . symbols.” A signal point stream only exists, according to the specification, after interleaving adjacent signal points from the symbol streams. (5:27-39.) Rembrandt’s analysis ignores the structure of the claims, common sense and the description of the claimed invention in the patent and in Rembrandt’s own brief.

¹⁰ Rembrandt does add an argument that Defendants’ construction would somehow exclude the preferred embodiment. This argument is unclearly explained, and ignores that, in the preferred embodiment, the signal points are adjacent before the interleaver, as established above.

The second, and only new, dispute concerning the “interleaving the signal points” claim limitations is the definition of the corresponding structure under Section 112(6) for the “means for interleaving” in Claims 1 and 21. Once again, Rembrandt attempts to blur the distinction between signal points and symbols.

At the outset, the parties agree that the structure described in the patent for performing the signal point interleaving is the “signal point interleaver,” which is identified in the patent by the numbers 341 or 641 (with the related delay elements). Rembrandt concedes this in its brief, as it must. D.I. 238 [Rembrandt Opening Brief] at 18 (identifying the “signal point interleaver” as corresponding structure).

Where the parties diverge is Rembrandt’s sharply overreaching attempt to argue that the patent discloses an *alternative* structure to the signal point interleaver for signal point interleaving. Specifically, Rembrandt argues that the switch used as part of the process for interleaving *symbols* (which the ‘627 Patent admits is part of the prior art ‘625 Patent) can also perform the claimed interleaving of the *signal points* (which is the purportedly novel aspect of the ‘627 Patent). *Id.* at 19 (“the switching circuit is capable of performing the function of interleaving signal points of channel symbols.”).¹¹

Rembrandt’s position not only conflicts with its own description of the alleged novelty of the ‘627 Patent, but with the law. It is a cardinal principle of claim construction that the specification must “clearly link” a structure to the claimed function for it to qualify as corresponding structure under Section 112(6). *See, e.g., B. Braun Medical Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997) (“structure disclosed in the specification is ‘corresponding’

¹¹ Again, understanding the parties’ infringement contentions provides helpful background. In the ATSC standard, there is no signal point interleaving and thus no signal point interleaver such as that in the patent. Accordingly, Rembrandt is forced to argue awkwardly that a switch for symbols is a signal point interleaver.

structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim”). Yet there is nothing in the specification that links – much less clearly links – the claimed function of interleaving signal points with a switch. And there is certainly nothing that links any symbol switching mechanism to the signal point interleaving function of the claims. To the contrary, the ‘627 Patent clearly describes the signal point interleaver as a subsequent element that re-orders signal points within a stream after a stream of symbols has been generated. Indeed, the patent expressly admits that a switching circuit involves “no signal point interleaving.” *See*, 6:52-54 & Fig. 5, Line II; D157.

Rembrandt offers meager support in its brief for its dubious position, cobbling together phrases from different sentences in the patent to misleadingly suggest that “data word outputs of the trellis encoders are...supplied to the QAM encoder by switching circuit ...[to form] interleaved stream of trellis encoded channel symbols.” D.I. 238 [Rembrandt Opening Brief] at 19 (ellipses and brackets in original). This passage from Rembrandt’s brief is more in the style of a hostage note, than serious support for such a far-reaching position. Regardless, even if there were actually a sentence like this in the patent, it still would not meet the legal standard requiring clear linkage to the claimed function. This passage speaks of *symbol* interleaving and says nothing about *signal point* interleaving at all. And for good reason. As explained above, the interleaving of streams of symbols (which is admittedly prior art) is a *separate* and *preceding* step to the interleaving of signal points: “It is to this end that the signal point interleaver is included within the transmitter in accordance with the invention.” ‘627 Patent at 7:7-9.

Rembrandt also attempts to include another alternative corresponding structure to the signal point interleaver. Specifically, Rembrandt argues that, as an alternative to the signal point interleaver, the patent discloses “a processor programmed to interleave the signal points of the

trellis encoded channel symbols.” D.I. 238 [Rembrandt Opening Brief] at 19. Although the patent does vaguely state that the hardware in the patent can alternatively be replaced by “one or more appropriately programmed processors,” this patent prosecutor boilerplate is not enough to qualify as an adequately disclosed corresponding structure under Section 112(6).

In *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008), the Federal Circuit addressed whether this kind of vague reference to software could suffice as corresponding structure. The court concluded it could not, holding that “the patent must disclose, at least to the satisfaction of one of ordinary skill in the art, enough of an algorithm to provide the necessary structure under § 112, ¶ 6.” *Id.* Here, Rembrandt does not even claim that the patent discloses any algorithm – much less an algorithm for performing the signal point interleaving of the claims. The Court should reject Rembrandt’s attempt to include an unidentified program on an unidentified processor as adequately disclosed corresponding structure.

Similarly, in *Aristocrat Technologies Australia PTY Limited v. International Game Tech.*, 521 F.3d 1328 (Fed. Cir. 2008), as here, the patentee claimed that a programmed processor was properly corresponding structure. In *Aristocrat*, the patentee argued that there was no need for an algorithm for implementing the function to be included in the specification because the patent described the function and those skilled in the art would know how to create an algorithm to perform the claimed function. The Federal Circuit flatly rejected this argument, explaining that a particular algorithm for performing the function must be present:

Aristocrat’s real point is that devising an algorithm to perform that function would be within the capability of one of skill in the art, and therefore it was not necessary for the patent to designate any particular algorithm to perform the claimed function. As we have noted above, however, that argument is contrary to this court’s law. To qualify as the structure for a means-plus-function claim,

the specific technique used to perform the claimed function must be described within the specification itself, regardless of whether it is known in the art at the time.

Id. at 1334.

2. “Deinterleaving The Interleaved Signal Points” and “Means For Deinterleaving”

Rembrandt’s arguments regarding the deinterleaving function and the corresponding structure of the means for deinterleaving is merely the mirror image of the arguments in the prior section regarding interleaving. Rembrandt’s position is no better when cast in terms of the receive end of the system and should be rejected for all the reasons discussed above.

E. “A Distributed Viterbi Decoder For Recovering (To Recover) Said Information From The Deinterleaved Signal Points”

The central debate regarding the “distributed Viterbi decoder” claim term is whether the entire symbol must arrive at the decoder before the deinterleaved signal points are decoded. As stated in the patent, the Viterbi decoder cannot perform its information recovery function accurately without receiving all the signal points that make up the symbol, which is recognized by Defendants’ construction: “a multiple stage decoder in which each stage receives all of the deinterleaved signal points of a trellis encoded channel symbol before deciding their values together using the Viterbi algorithm.”

Rembrandt does not appear to deny that, in the preferred embodiment, as shown in Figure 4, this is exactly what happens. Rembrandt’s argument on this issue is the mere conclusion that there is nothing in the claims or specification that supports the receipt of all the signal points that make up the symbol before decoding. But this claim term addresses the recovery by the decoder of the information from the *deinterleaved* signal points and Rembrandt overlooks that the specification says that, for accuracy, all the signal points of the symbol should be received. ‘627 Patent at 8:47-56 (stating that “all of the signal points of a channel symbol” must be received to

perform the accumulated path metric calculations of the Viterbi algorithm). Without receiving the entire symbol, the Viterbi decoder cannot perform its basic function of decoding the symbols using the “accumulated” knowledge from having received prior trellis encoded symbols. D.I. 240 [Defendants’ Opening Brief] at 19. Neither Rembrandt’s proposed construction nor its argument recognize this simple fact. Defendants’ proposed construction should be adopted.

F. Receiver Apparatus

As it does consistently, Rembrandt attempts to construe “receiver apparatus” in a way that avoids giving meaning to the term. It relies on the most vague of four definitions appearing in a particular technical dictionary, while ignoring two others that are similar to Defendants’ construction and more consistent with the intrinsic evidence in the ‘627 Patent. (The third dictionary definition concerns telephone handsets and is inapt.) Even according to Rembrandt’s dictionary, a “receiver” is “an electronic component capable of collecting radio frequency broadcasts and reproducing them in their original audio and/or video form, *e.g.*, a TV or radio receiver.” *See* Newton’s Telecom Dictionary 4th ed. 1991, at B018. Because the original form of the transmitted signal in the ‘627 Patent is “a serial bit stream” (2:56), defendants’ construction, that a “receiver apparatus” is “a device that demodulates a received signal and recovers information in the form of a serial bit stream” is consistent with the more apt definition in Rembrandt’s dictionary. Defendants’ construction, like this definition, makes clear that a receiver apparatus, as a “section of a modem,” is what receives a signal and recovers information. ‘627 Patent at 2:39-40.

IV. CONCLUSION

Defendants’ proposed claim constructions should be adopted.

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July 2, 2008

CERTIFICATE OF SERVICE

I hereby certify that on July 2, 2008, I electronically filed the foregoing with the Clerk of the Court using CM/ECF.

I further certify that I caused to be served copies of the foregoing document on July 2, 2008 upon the following in the manner indicated:

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